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**Addresses on
Commercial and Technical
Education**

FRANK A. VANDERLIP





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CO-ORDINATION OF HIGHER
EDUCATION

Founder's Day Address

Delivered at Girard College, Philadelphia
May 20, 1905



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It has been well said that when Stephen Girard conceived this notable institution, the benefaction was more than a philanthropy,—it was a precedent. He was the first man of great wealth to devote a vast fortune to an educational idea. We cannot measure the influence that act had. The example may have been of as great good in its effect upon the minds of other men of wealth, as has been the value of the great benefaction itself. Certain it is that the precedent then made was the beginning of a long and ever-increasing list of educational gifts. That list has come to be of such proportions that to-day the giving of a million dollars to an institution of learning excites little more than the passing comment of the hour.

In the gift of Stephen Girard, there was a special significance. It was not a gift of money alone; there was added to the money wise judgment, a noble motive and a carefully considered plan. Girard gave his brain, the ripe wisdom of his experience, and the broad and helpful charity which years of struggle and sorrow and loneliness had left in his heart. With his money, he also gave himself.

In the long line of educational benefactors who have come after him, can there be found one who has done more? Is there one who has more completely vivified his gift with his own thought, his own personality? It is to the value of that particular phase of Girard's giving, the value of the example which he set in the giving of his own ripe judgment, as well as of his money, that I would especially direct your attention.

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Learned men are to-day almost as far from agreement as to what constitutes the best education, as they were when Aristotle first protested against current beliefs on the subject. All the centuries of debate and of experiment from the days of the Greek philosophers to the latest meeting of our own educators, have resulted in progress, but certainly not in agreement as to what is education and as to just how it should best be acquired. Probably the nature of the problem is such that a definite solution never can be reached. We can hardly expect an answer which will be accepted by all learned men. I am inclined to believe that one reason why we have never approached nearer to agreement, however, is because the solution of the problem has been left too largely in the hands of professional educators.

Even though men bear learned degrees and have shown rare ability in acquiring a special sort of knowledge prescribed by a particular system of education, it may not follow that those same learned men are the best judges of what should be the trend of that educational system. If they alone are left to shape the further development of that system, I believe its growth would be less likely in all respects to follow the best lines than would be the case if its development were in a measure shaped by men who have acquired another form of education and have scored success in other fields. The professional educator is quite as likely to become narrow and provincial as is any other specialist. The president of one of our great eastern universities told me a few days ago that he had been making an exhaustive examination of the history of his institution and he had discovered that every great progressive step which the university had taken in 150 years, had been against the protest and the opposition of the faculty. The trustees from time to time brought forward new plans of organization and broader ideas re-

garding the curriculum. The faculty had in every case voted adversely, and when the changes were made, they were made only by the trustees taking the responsibility upon themselves. Even Alexander Hamilton, with his consummate wisdom, once worked out a plan of reorganization for the university, only to have it meet with the usual vote of emphatic protest from the faculty, but final adoption by the trustees. Now, in the light of years of experience, these changes are seen to have been wise in the main. The unavailing protests of the learned men who made up the institution's faculty are discovered to have sometimes been based on narrow grounds lacking the impersonal view and judgment that should have been brought to bear upon the questions.

This is only one illustration of many that might be given of the tendency toward narrowness on the part of the specialist, of the wisdom there is in larger counsels and of the value to educational progress that may come with the judgment and experience of men of large affairs and wide interests. Schools are for the education of all sorts of men, and in directing their development, there is need of almost as many points of view and of as varied experiences as there are classes of men to be educated. It is easily possible for men engaged in the particular work of education to become narrow. Book covers contain much knowledge, but may also shut out from a too close student much wisdom,—much of that sort of wisdom which is gained by experience in the world. And so, I believe that when the example was set to men of wealth, of giving with their money their thought, their experience, their judgment, that example was of great value.

Keen foresight, a shrewd knowledge of humanity, a wise and well-seasoned judgment of the practical value of things, ordinarily go to make up the mental equipment

of the man who has made a million dollars which he is ready to devote to some great public good. If the example which Girard set in any measure leads such men fully to use that same wisdom and judgment which enabled them to make the million dollars, in helpfully directing along right lines the manner of its spending, then the example is of value indeed. The worth of a man's benefaction may be vastly increased if, to directing the influences which the gift will set in motion, he will give anything like the thought which he gave first to the acquisition of the money. The gift which is vitalized by the sound judgment of the giver may become more valuable because of its aim than because of its amount.

There has been much generous giving without clear thinking. There has been much philanthropy the effectiveness of which has been small because there was lack of wisdom in directing its use. That leads me then to one thought which I wish to present in connection with my subject, and that thought is in reference to the tendency toward waste. The keynote of economic life to-day may be said to be the prevention of waste. The pervading economic tendency of the day, the tendency toward combination and away from useless competition, is a tendency which has been set in motion as a protest against waste. It is, I believe, in its potentiality for the improvement of the condition of men among the foremost of all economic influences ever brought into being.

Not a great deal of thought has been devoted to the idea of waste in education. We have a feeling that all education is good, and whether or not this or that particular educational activity is of the greatest possible efficiency, we still think that it is at least of value and is worthy of encouragement. This loose commendation of all forms of education tends to blind eyes to an educa-

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tional waste, though they would with clearness see an economic waste. It is true too that the disadvantages of educational waste are not so clearly discernible as are the disadvantages of economic waste, though the results may be no less deplorable.

Since the precedent of the great Girard benefaction was established there has followed a golden flood of gifts for educational purposes and in the main the giving has been without discrimination. It has been as if Education were a definite and complete conception and as if a benefaction laid at Education's shrine, no matter where that shrine might be erected or in whose keeping it might be, was a gift given with rare discrimination and with the certainty that it would be wisely devoted to the noblest uses. Unfortunately that has not always been the case. Educational donations are frequently, I may almost say usually made with a lack of perspective as to what would be best for the whole educational field. The giver or the recipient may be moved by an ambition to satisfy local or personal pride. Rarely have men made their gifts in such form as would be to the greatest advantage to the proper development of the whole system of higher education. They have not clearly seen how much the system was lacking in co-ordination of effort, how wasteful it was becoming in unnecessary duplication, how needlessly costly it was being made by useless and hurtful competition—not competition in the field of merit, but in the field of narrow personal or local ambition.

There has been a lack of co-ordination in the field of higher education. We have failed to evolve a strong central purpose which would serve to give symmetry to educational development. The lack of a central influence, an influence which would hold back growth here and encourage it there, has cost much in wasted effort and in unsymmetrical growth and development.

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If the Stephen Girards of to-day, men of clear thinking, of high purpose, of wise judgment, would give the best that is in them of wisdom and advice to aid the educators in creating wisely such a central purpose, the gift which they would thus make would be of greater value than would be their gifts of millions.

Just what they should advise I am, of course, neither prepared nor competent to say. I wish only to assert confidence in the great benefit to the whole movement of higher education which would come from the advice such men could give, would they but study the problem with the care with which they study the large affairs of business. There is, however, a hint for a plan of effective action, it seems to me, in the two vast benefactions which have been made by the great philanthropist of our present day. In the ten-million-dollar fund which created the Carnegie Institution there was the idea of a benefaction which should be devoted to the advancement of human knowledge wherever the opportunity could be found. It was not the purpose to build up an additional institution of higher learning, to duplicate the work and compete with the efforts of an already ample number of such institutions, but rather to lend aid wherever aid was most needed for the advancement of human knowledge. In a more recent benefaction a like vast sum has been given for the useful purpose of retiring faculty members who have passed their day of usefulness and who, in the interest of highest efficiency, had best make way for others. The benefits of this latest foundation are intended to apply to the entire body of institutions of higher learning with certain obviously appropriate exceptions.

Is there not in these two benefactions a hint of what might be done in the way of a movement of great importance towards unifying and co-ordinating our whole system of higher education, a movement which would tend to de-

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crease a waste of expenditure and of effort? It hardly needs demonstration, I think, that there is such waste. There is a waste of educational endowments and of instructors' efforts as well as of the meagre funds and invaluable time of the youths whose college years are being made less fruitful than would be the case had we reached the point of highest possible efficiency in each educational institution.

I believe there might be created a great central fund, the object of which should be so to distribute the income as to give effective force to an impulse toward co-ordination of our whole system of higher education. If such a fund were in the hands of the wisest body of men that could be brought together for that purpose, it could be so used that it would stimulate the educational system to a symmetrical growth. It could be so administered that it would encourage that growth which ought to be encouraged in the judgment of men who were looking at the whole field. It would avoid the mistake of helping institutions to undertake work that was not demanded and for which they were not fitted. It would give great encouragement to the small colleges, but it would be encouragement leading them to do the best possible work in their own particular field, and not stimulating them into attempts to become universities that undertook to accomplish impossible things. On the other hand, it would give encouragement to great universities to broaden and strengthen their capacity to do true university work, and it would discourage the efforts of such of those institutions as may have forgotten that numbers alone do not make great seats of learning. It would put emphasis on the error of those institutions that have lowered their standards and admitted to their privileges a mass of illy-prepared youths, who, from every point of view, might have better spent some

time at a smaller institution where individual needs could have been looked after more efficiently and effectively.

I would provide for the administration of such a fund, a board of trustees that had large educational experience and outlook, and I would also have among those trustees men of broad experience in affairs of importance and in the practical matters which concern the average man. Such a fund so administered would put a mighty impress on the whole development of higher education. It might make an impress which would be out of all proportion in importance to the effect which the same fund would have had if, in the first instance, it had been divided among many institutions.

I believe if some present day Girard will make the beginning with such a fund, giving with his benefaction his wisdom, his experience and his judgment, so that the fund really becomes an instrument such as I have described, he will have rendered a service, the value of which will be beyond measure ; he will have created an instrument which will check waste ; he will have helped men to see that the highest possible success for an institution of learning is to become a perfectly efficient unit in a perfectly co-ordinated scheme ; he will have made men understand that the unit which forms one part in such a system is as creditable as another, that the small college can be made to do as valuable work as the great university, providing each institution fulfills its special purpose in a symmetrical whole.

Since the day when Stephen Girard drew the will which made this institution possible, there have come alterations in the scope and method of educational work which have been fundamental and far-reaching. The seventy-five years which have elapsed since that instrument was written have worked vast change and progress in every department of life, and in none, perhaps, more than in the field

of education. The world's conception of a university has been revised within that period, the scope of the curriculum has been broadened so as to take in fields of knowledge that were not thought, by Stephen Girard's contemporaries, susceptible of scientific classification. Those curriculums have now long contained subjects which then no one supposed would ever form a part of college training.

We have gained, too, new and greatly improved conceptions of how old subjects should be taught. In the entertaining autobiography which that most useful citizen, Andrew D. White, has recently given to the world, an interesting picture is presented of the shortcomings of American universities at a period even a generation after Girard's death. The university world then was a world of dry text-book recitations, lacking the method and treatment that give subjects a living interest. There was not at that time in an American university a professor of history, pure and simple. It was not until Mr. White had organized Cornell University, and at as late a day as 1870, that there was in any American university a course of lectures on American history. An American student, in order to secure instruction in the history of his country, had, before that time, to go to the lectures of Laboulaye at the College of France.

It is within the period since Girard's death that an entire department of learning has been recognized and created—the department of higher technical education. At first the idea of that sort of education was scouted by the universities, while its value failed of appreciation at the hands of practical men. A man need not to have lived more than the allotted span to remember the scant regard in which higher technical education was held. Practical men pronounced it impractical; learned men regarded its atmosphere, spirit and scope as something to put it quite outside of the recognized field of higher education. There

has been a long step from the attitude of those early days to the present when we find even in the strongholds of the ultra-conservative university life of Germany, a recognition of technical training which places it on a level with the other learned professions, or when at home we find even intellectually aristocratic Harvard inviting, perhaps vainly, a great technical school to share in its endowments and enjoy the lustre of its honored name.

I have referred to some of these evidences of change and of progress in our views regarding higher education, because I believe that we are even now in the midst of as important changes and as great progress as in those years gone by. The tendency is to make education more practical. We are coming more clearly to recognize that for the many kinds of men there must be many kinds of education. In those early days the engineers who grew up in a school of experience looked with doubt and disfavor for a time upon the man who, by some short cut of learning, was attempting to reach a goal ahead of those who were following the ordinary road. So the business man to-day is inclined to look with doubt upon any suggestion that it is possible to have a higher commercial education which will be of practical value. Just as the educators of two generations ago felt that there was no proper place in the sacred grove of learning for a branch of education that smacks so of every-day life as did a course of engineering, so to-day there are many who believe that an attempt to teach the principles of commerce would be bringing into the classical conception of education, a subject that has no place there.

The mental equipment of a business man needs to be greater to-day than was ever before necessary. Just as the sphere of a business man's actions has broadened with the advent of rapid transportation, telegraphs, cables and telephones, so have the needs of a broad understanding of

sound principles increased. It was steam processes of transportation and production that really made technical education necessary. The electric dynamo created the demand for technically educated electrical engineers. So the railroad, the fast steamship, the electric current in the telephone and cable and the great economic fact of gigantic and far-reaching business combinations, are making the science of business a different thing from any conception of commerce which could have been had when Girard was the most successful of American business men. The enlarged scope of business is demanding better trained men—men who understand principles. New forces have made possible large scale production, and we need men who can comprehend the relation of that production to the world's markets. There has been introduced such complexity into modern business, and such a high degree of specialization, that the young man who begins without the foundation of an exceptional training, is in danger of remaining a mere clerk or bookkeeper. Commercial and industrial affairs are conducted on so large a scale that the neophyte has little chance to learn broadly either by observation or by experience. He is put at a single task. The more expert he becomes at it, the more likely it is that he will be kept at it unless he has had a training in his youth which has fitted him to comprehend in some measure the relation of his task to those which others are doing.

It is true that the practical value of technical education is more obvious than is the value of a higher commercial education. A man cannot build a railroad bridge unless he is an engineer. Schools can teach engineering and the value of the technical school is therefore clear. It is less easy to establish the certain value of a higher commercial education, but, for my own part, I believe that that value will in time come to be as fully recognized. We have

seen in Germany an example of distinct success of this sort of training. One is beginning to find all over the world positions in business houses filled by Germans who have been selected because of the superior training they have received in the German schools.

If the people of the United States are to make the most of their opportunities, they must employ the most effective methods. In a university course of higher commercial training much can be taught that will be of national value in the development of these opportunities. These schools of commerce, it seems to me, should be attached to universities. The training they offer should be in addition to the general university training. I believe there is a trend in educational development to-day that is in that direction, and that the results which will follow such a development will be of enormous value.

The men who have administered Girard College have had occasion to note an interesting change in an important phase of industrial conditions. When Stephen Girard planned the institution there was well recognized as a part of our industrial life a system of industrial apprenticeships. That system disappeared. The course of training which it offered no longer exists. Other and, perhaps, less efficient methods have come into vogue.

There has been as marked change in the training which is available for the business man. It is by no means certain that a young Stephen Girard, having in every particular a mental equipment equal to that of the young Frenchman who put out to sea a century ago and more to make his fortune in commerce, could to-day duplicate that success. Conditions have vastly changed. A new order of equipment is demanded. The staunchness of character, the same intrepid will, to-day will play their part as they played it then, but in addition there is now demanded a breadth of technical knowledge, a fund of specialized in-

formation, a comprehension of intricate relations and an understanding of broad principles which the conditions of a century or even a generation ago did not make imperative. I have faith then that some new Girard, recognizing those changed conditions and consequent new demands, will make a benefaction which will help to give us clear-thinking, right-minded and well-equipped youths, from whom may be developed future captains of commerce and industry. And if the example which this institution typifies serves to lead that benefactor to give *with* his money the best there is in him of wisdom, experience and judgment, to insure that the money be most wisely spent, then will there be fresh reason for us to honor the name of Stephen Girard.



A NEW COLLEGE DEGREE

An address delivered at the
Convocation of the University of the State of New York
in the Senate Chamber at Albany
June 29, 1905.



A NEW COLLEGE DEGREE

In this gathering of professional educators I presume nothing less than the traditional bravery of the foolish would lead a layman into a discussion of a new phase of higher education. That would seem to be particularly true in the face of a recent utterance by that revered dean of American learning, President Eliot of Harvard, when the subject chosen is commercial education. President Eliot has recently told us that it is monstrous—the strong adjective is his—that it is monstrous that the common schools should give much time to compound numbers and bank discount, and little time to drawing. In the face of that vigorous declaration against utilitarianism, the layman must be foolhardy indeed who would raise his voice in advocacy of an education especially adapted to men who are to lead commercial lives.

President Eliot has told us further that the main object in every school should be—not to provide students with means of earning a livelihood—but to show them how to live happy and worthy lives inspired by ideals which exalt both labor and pleasure. That desirable object he seems to believe can be best obtained by teaching children how lines, straight and curved, lights and shades, form pictures; rather than by leading their young minds into the waste places of compound numbers and bank discount.

On any subject connected with education there is no opinion that should be more revered than that of the President of Harvard. His position is unique; his words are the voice of authority. This slighting opinion of bank discount and compound numbers which Dr. Eliot has ex-

pressed can, I presume, hardly be taken as representing his unqualified view regarding practical education. Through all time there have been many distinguished utterances by philosophers and teachers as to the meaning of education. These men, however, have rarely agreed in their concepts of the purpose and the aim of education. Since the days of the Greek philosophers there has been little progress toward a generally accepted view of what education should aim to accomplish. When the doctors of learning themselves disagree perhaps a layman may be forgiven for differing from them on some points.

It is certain that the college curriculum has undergone many changes and much development even within the period of years during which most of you have been actively connected with educational matters. We have seen great changes, marked broadening and much significant development in the studies generally prescribed as requisite for a college course. Those changes have been sufficiently marked to indicate that there is still, in the minds of those who are directing education, indefiniteness as to what is absolutely best in the way of instruction. The changes which have been going on have been sufficiently rapid and recent to lead one to believe that there may still be important changes, still material broadening, in the courses which our colleges offer. It is logical, therefore, to believe that our system of higher education has not settled into anything like permanent form. The alterations which we have seen indicate that there are more to come. Curriculums which are to-day regarded with the highest veneration, may to-morrow, in some, be found lacking and in need of modification. It is in the belief that the college curriculum is still in a period of transition and enlargement that I venture to give my views of one phase of higher education in which I think we are soon to see distinct developments.

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The experience which I have had in business, and particularly the experience which I have had with young college men in business affairs, leads me to the firm belief that much may properly be asked in the way of a broadened university curriculum. Much could be added that would be of great advantage to the individuals who are to be future leaders in business life. But the added courses would be of value, not alone to those individuals, but in the future development of commerce along right lines and thus of importance in working towards the well being of the commonwealth.

I believe in the educated man in business. I believe the present college course is not the best that can be devised for the training of men who are to be leaders in commercial and financial life. It is true that we have scientifically classified a few of the principles and underlying laws of commerce and finance, and we teach them more or less well. I believe many more of those laws and principles can be scientifically classified, and can be taught, and that the result of such teaching will make better business men, will qualify men for great responsibility earlier in life, will help solve the problems that new commercial conditions have raised, and will work to our national advantage, not only in the way of our pre-eminence in commerce, but also in the direction of a clearer understanding of the true relation between government and business and therefore toward a better discharge of our duties as citizens.

There should be no failure on the part of our educators to appreciate the increasing demands that are, by the changing character of commercial affairs, being laid upon the abilities of business men. The last two decades have witnessed changes that make necessary an entirely new order of ability in business life. Those changes demand a greatly superior training. We have seen the capital

employed in business enterprises jump from millions to billions. That change is significant of something much more than mere growth in the magnitude of commercial operations. It is significant of fundamental alteration, in conditions and methods. We have seen struggling lines of railways united into systems and systems into vast nets, all operated under a single management. We have seen whole industries concentrated into a few combinations, and those combinations dominating their especial markets throughout the world. These new conditions have surrounded us with problems for the solution of which experience furnishes neither rule nor precedent. To solve them we need a grounding in principles, an understanding of broad underlying laws.

The world is in great measure becoming a commercial unit. The eye of every business man must be farseeing enough to observe all markets and survey all zones. A significant word spoken in any market place or parliament of the world, instantly reaches the modern business man, and he should be prepared correctly to interpret its meaning.

Electricity has annihilated the geographies, for it has destroyed the distinctions which gave geographical boundaries their significance. Political distinctions will continue to live, languages and religions will continue to differ, but the peoples of the earth, regardless of political boundaries, of racial differences, of national ambitions, are coming rapidly to form one great commercial unit, one great economic organism. There are no tariff walls against capital. The language talked by money is a universal tongue. The modern business leader, therefore, more than was ever the case before, needs a mind educated to think clearly, needs the ability accurately to trace effect to cause, and needs the training that will enable him to

understand the true relation between far separated conditions and widely diverse influences.

With the limitless wealth of resources which we have had in America, the successful conduct of a business enterprise has been a comparatively easy matter. Nothing short of egregious error has been likely to lead to failure. Any ordinary mistake in judging conditions or in the application of principles has, as a rule, been obliterated by the rapidity of the country's growth and the extent of its industrial and commercial development. If some of the men who have made notable commercial successes had been forced to face the harder conditions that exist in the old world, the measure of their success might have been very different. Had they been confronted by a situation where population was pressing upon the means of subsistence, where all the soil was under cultivation, where the mineral resources were meager and where there was lacking the wealth of the virgin forests, they would have needed greater abilities and better trained faculties in order to achieve such marked success. We are easily inclined to believe that we have the best business men in the world. I am disposed to agree with that view. But one should not lose sight of the fact that the lavishness of opportunity has brought commercial success to many who have come into the field illy prepared and with small ability. Any one who is familiar with the commercial life of Germany and has seen the successes there built up out of a poverty of resources—successes perhaps not comparing brilliantly with some of our own, until one studies the difficulties that had to be surmounted in achieving them,—must perceive there some elements of business ability superior to our own. There has been an astonishing increase of wealth and an enormous expansion in commerce in that nation. No one searching for the fundamental reasons why German commercial prog-

ress is relatively so much greater than that of other European nations, will fail to reach the conclusion that one of the greatest factors in that country's development has been the prompt and intelligent use which has been made of the schools. The Germans have to the highest degree made practical application of their learning. They have brought the true scientific spirit to bear upon their every-day problems. Industry and commerce have both profited in the largest degree. To-day we find in that nation, in spite of its lack of natural resources, pre-eminence in many industrial fields, a striking pre-eminence in foreign commerce, and a superior intelligence in the administration of finance. Those successes can all be, in the greatest measure, traced back to the school-master.

A certain unequaled native ability, coupled with unparalleled natural resources have united to help American business men achieve a measure of material success that has been in many cases, I believe, quite out of proportion to the ability brought to the work. In American business life the coming years can hardly be expected to offer so many easy roads toward business success as have appeared to the commercial wayfarer at every turn in years past. Our resources, of course, are far from reaching the complete development common in the old world countries. We have nevertheless advanced to a point of development where there will be less chance for success to come as a reward for haphazard and illy directed work. The successes of the future will be for better trained men. That is true not alone because we have in a measure already exploited our great resources, but because the field of commercial activity has so vastly broadened, because there has been such an enormous gain in the magnitude of commercial operations, and because of the increasingly intricate relationships which have resulted from this broaden-

ing and this growth. The changed scope, character and methods of modern business have united to demand men with a training superior to anything that was ever needed before, as the successful commercial leaders of the future. That general training cannot be had in the highly specialized process of the routine work of the office. The practical school of experience is too wasteful as a teacher of general principles. There will, of course, be the exceptional man who will come up through that routine training and dominate his field by the force of his intellect, but in the main the new conditions of affairs demand a superior training such as only the schools can give.

I know the majority of business men trained in the school of routine work will doubt the feasibility of teaching in the class-room, in a scientific and orderly fashion, those principles which they have gained only through years of hard experience and which they even yet recognize more by a sort of intuition than by conscious analysis. The engineers of an earlier day thought that blue overalls and not a doctor's gown formed the proper dress for the neophyte in engineering, but we have come long ago to recognize that the road to success as an engineer is through a technical school. So, too, I believe, we will in time come to recognize, though perhaps not to so full an extent, that the road to commercial leadership will be through the doors of those colleges and universities which have developed courses especially adapted to the requirements of commercial life.

When I speak of a higher commercial education I am referring to an ideal education for commercial and financial leaders. An ordinary machinist does not require to be graduated a mechanical engineer. A riveter of bridge bolts has no need to have taken honors in a course of civil engineering. A bookkeeper, a stenographer or a bank clerk does not require such a commercial education as I

am suggesting. For all those positions there should be special instruction, fitted to the character of the duties. My thought at the moment, however, is directed particularly towards the ideal form of university education for leaders in financial and commercial life.

In advocating a so-called higher commercial education, I would not be regarded as desiring a college course highly specialized and devoted to technical subjects at the expense of a broad cultural training. I would not be understood as advocating changes that will work towards a narrower college education, but rather changes that will work toward a broader one. I am not going to outline specifically what I think the curriculum should be for an ideal higher commercial education. At the present time such a definite outline is impossible. It is impossible because text-books must be written and teachers must be taught before that ideal course can be given. An ideal course such as I have in mind must at best be the development of years. There will be necessary action and reaction between university life and business life. Men must be better trained in the university for their business careers, and then out of that business life, and from among those better trained men, must in turn come men who will bring to the universities that combination of theory and practice, that knowledge of principles combined with familiarity with practical detail, which in the end will make both ideal teachers and ideal business men.

There is little or nothing that has been proven good that will need to be cut from the present college course. I believe the additional work and training that will be necessary in an ideal commercial education can easily be made possible within the present term of university residence by more effective and economical use of time. It will not be necessary to discard present requirements that have been found to be useful and have been proven pro-

ductive of good results. It will only be necessary to apply to both the years of preparatory work, and to the years of the college course, the business man's keen antipathy to waste. The time can then be saved that will be needed for the mastery of those special lines of study that will differentiate this ideal commercial course from the work which is at present demanded for a college degree.

I believe it is too nearly the truth that a college degree in America to-day does not mean a great deal more than four years of residence at a college. It certainly does not mean that there have been four full honest years of hard and conscientious work as an absolute requisite for that degree. There is undoubtedly opportunity for a man to put in the fullest measure of industry, but there are few institutions where that full measure is absolutely required before they will give the stamp of their approval in the form of a degree. The schools that are most tenacious of classical tradition should hardly feel proud of the fact that practically the only institutions of learning in the country that absolutely demand a full and honest return of work done in exchange for the honor of their degrees, are the technical schools. If as sharp a demand for time well spent were made in all colleges, a long step would be taken toward gaining sufficient room in the curriculum for the studies that will be necessary to make up an ideal commercial course.

I am perfectly aware that among the various conceptions of the true aim of education, there are many which agree with that of Dr. Eliot that a school is not for the purpose of providing the student with a means of earning a livelihood. I sympathize with those conceptions which hold that the purpose of education is to create noble ideals, to encourage the growth of the tap roots of sound character and to cultivate the blossoms of culture, but do

not believe that my ideal of a commercial education is necessarily at variance with these ideals. In advocating it I do not think it is necessary to adopt the view of the utilitarians, who believe that education should be merely a course of technical training, fitting the student for some practical work. I would not make the mistake of planning a course of study which would merely be an anticipation of the duties of the counting room. I know there are some who measure the value of the work of a college by its success in being of practical and important advantage to those who are preparing for professional life. They believe that the school which will, in the briefest time, turn a man into an able lawyer, a competent engineer, or a skillful physician, should be regarded as the most successful. People holding that very practical conception of the purpose of education should at least be glad to welcome a new field in which university training may be applied with practical results, but I do not believe it necessary to hold these narrow views in order to agree that higher education may be so shaped as to be of especial advantage to young men looking forward to business careers.

There are some who regard the university as primarily a center for the diffusion of learning. That conception is imperfect, but I should think that those who hold it would recognize a field of the very greatest importance in the work which might be done in the way of disseminating correct views in regard to financial and commercial subjects. If we had in our universities professors capable of a thoroughly scientific understanding of the principles underlying many of the problems of finance and commerce, these men would help us to see distinctly and to think clearly in regard to some of our everyday practices and tendencies. The dissemination of such knowledge would surely be of great value.

There are some whose conception of a university is that its greatest work should be in the field of scientific research. They have a noble ideal. They believe that the development of new knowledge is a work even superior to that of its diffusion. They aim to inculcate a spirit which will lead men to seek truth for its own sake, and to create an enthusiasm for scientific exactness. That idea is not at all out of harmony with the possibilities of a higher commercial education.

In the popular mind the motives of business men are often maligned. I know leaders in the business world who have as little concern for personal reward in what they seek to accomplish as would be the rule with men engaged in scientific research. These men are devoted to certain commercial ideals. The making of money happens to be inseparably connected with those ideals, but the making of money is not the great moving force. They are interested in the expansion and development of business, in the discovery of new fields of operation and in the introduction of improved methods. Their interest in that work is no more ignoble than is the interest of any other specialist. Men who already have more than most ample means, are not for personal gain pursuing business with an absorbing intensity. It is empire building with them, perhaps on a small scale or perhaps on a great one. Their lives are not sordid. They may be narrow, as the lives of all specialists are narrow, but the popular idea in regard to men whose lives are given to commerce, the view that these men are devoting their existence to mere money getting, is in great measure erroneous. They have the same high type of imagination which usually marks men who attain eminence in any other line of activity. They are, in a large way or in a small way, as may be determined by their environments, using qualities similar to those that make great statesmen, great scholars, or great

scientists. I believe, therefore, that a proper education for the highest work in commercial life might be so outlined as to be entirely in harmony in its practical application with the ideals of those who conceive that a university should be a place for scientific research, a place where the scientific habit of mind should be created, and where truth should be sought purely for the love of the truth.

A higher conception, perhaps, than all those others, is a definition which Dr. Hadley gives us. In his view the most profoundly important work which falls to the lot of the American citizen, is his duty in guiding the destinies of the country. He believes that if we train the members of the rising generation to do this well, all other things can be trusted to take care of themselves; but if we do not train them to do this well, no amount of education in other lines will make up for the deficiency. Suppose then we accept that as the final test of a university training. How can the duties of citizenship best be taught? What are the requisites for a training in citizenship? I would answer, training in the highest conceptions of business. Of what does the work of guiding the destinies of the country consist? Consider what are the political problems of the day and of the generation. A great part, nearly the whole of the work of government in a country like ours, is merely the conduct of business on a very large scale. Look over the political platforms of the last generation or study the messages of the presidents, and you will find a very large percentage of the political questions that have been raised, are, in their ultimate definition, merely commercial questions. What have they been? The money standard; the control of trusts; the regulation of interstate commerce; railroad rebates; questions affecting the currency and banking; customs duties; schemes of taxation; the building of canals and the creation of plans for irrigation. These and

questions like them have made up almost altogether the political questions of the day. They are in the end merely business questions. No purely ethical principle is at stake. We have now no necessity for a discussion of the rights of man. Our government in the main is a great business enterprise and our political problems in the main are economic problems.

In respect to such questions, what sort of training is wanted? Can any one answer them so well as a thoroughly trained business man, granting first that he is governed by the highest ideals of patriotism and honesty? Will not the man who is thoroughly well grounded in the principles of commerce and finance, be better qualified to guide the destinies of our country, than one who has merely had a training in the love for the beautiful or one who has won class prizes in Greek declamation? If we adopt President Hadley's view as to the most profoundly important work of the university, I believe that noble ideal is most distinctly in harmony with the conception I have of what is possible in the way of a higher commercial education.

In this connection Dr. Hadley has made one of the wisest statements that has come from any modern educator. He has told us that every change in industry and political methods makes it clearer that mere intelligence is not sufficient to secure wise administration of the affairs of the country, but in addition there must also be developed a sense of trusteeship. There is nothing so much needed in American life to-day, in my opinion, as a cultivation of a sense of trusteeship. That need is by no means confined to political life but is the need standing above all others in commercial life. If the schools can teach it, and in a measure I believe they can, they will do more for commerce than they have done for engineering, or law, or science. If I were to name one thing pre-

eminently to be desired as a result of a course of higher commercial education, it would be the cultivation of a proper sense of trusteeship. I do not regard that as an impossible ideal. A truer understanding of the real relation and relative importance of the principles of commerce would give men a far clearer view and juster appreciation of the responsibilities of trusteeship. We have men holding positions of great trust in our commercial life to-day who have a childish ignorance in regard to their responsibilities as trustees. These men are honest men, they are well-meaning men, but they have never learned the elemental principles upon which a sense of trusteeship must be built. I am not so optimistic as to believe that a college course could be so designed that those having its benefits would afterward in active life always be imbued with the highest sense of trusteeship, but I do believe that Dr. Hadley uttered a great truth when he pointed out that the cultivation of such a sense is the most important work that a college has to do. If it is important in the education of the American citizen, it is doubly important in the education of that class of American citizens, who have to deal with the commercial and financial life of the country.

We are having an illustration to-day of how a clearer understanding of underlying principles of commerce illuminates ethical considerations. A generation ago, before we had thought very deeply or accurately in regard to the nature of common carriers, there were many men who saw nothing ethically wrong in a railroad rebate. Men regarded a railroad as a piece of private property and railroad transportation as a commodity which might with perfect propriety be bargained for and sold to the best advantage. The whole community has since been educated to a clearer comprehension of the fundamental principles of transportation, with the result that we have

built up ethical standards which absolutely did not exist before. This I believe is an illustration of what might happen in many other directions with a better education embracing principles and underlying laws.

I want to quote again from the President of Yale. Dr. Hadley says: "An intelligent study of science whether it be physics or biology, psychology or history, should train a man in that respect for law which is the best antidote to capricious selfwill on the part of the individual. The student learns that he is in the midst of an ordered world. If he has the root of the matter in him, he thereby gains increasing respect for that order and readiness to become himself a part of it."

That statement we must all recognize as eminently true. Is it not equally true of the study of the science of commerce? Will not such a study train men in that respect for law which is the best antidote to capricious selfwill on the part of the individual? Is it not that of which the country is to-day standing in the greatest need? What do we need more than an antidote to capricious selfwill on the part of the accidental millionaire? Does not a lack of knowledge of fundamental principles lead to a lack of respect for the great fundamental laws of finance? I believe that is true. I believe when we have reached a point of really making a scientific classification of the principles of finance and commerce, a classification which without question can be made, and when we have developed a class of teachers capable of giving adequate instruction and so made possible a course of study truly worthy of serving as the basis for a new college degree, we will then have taken a long step in the direction of creating that respect for law of which we are now in need. There will be a respect for economic laws because we will better understand their significance and force. There will be a greater respect for legislative laws be-

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cause, with wiser legislators, those laws will more surely be based on correct economic principles. If all this is true, then whatever your ideals of education may be, cannot you all unite in helping to evolve a college course which will be worthy of upholding a degree of Master of Commerce ?

THE ECONOMIC IMPORTANCE OF TRADE SCHOOLS

An address delivered before the
National Educational Association at Asbury Park
July 6, 1905.



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In the group of the great industrial nations, there has come forward in recent years one that has taken a place in the very front rank among industrial competitors. It has reached a pre-eminent position in many special fields of industry, wresting from others the vantage they had long held in serene security. That nation is Germany. By the aid of rapidly developed skill and constantly improved methods, Germany has closed its own markets to the products of the manufactories of other countries. But Germany has done more than that; it has developed an ability to successfully compete in the neutral markets of the world, until to-day it shows the greatest capacity in this field of international industrial competition that is displayed by any of the great nations.

In accomplishing this remarkable industrial success, Germany has had little aid from nature to make the task an easy one. There has been no wealth of raw material such as we Americans have had to aid us. There has been no vast homogeneous domestic market such as has been of vital importance in building up our manufactories. Her people have lacked the peculiar inventive ingenuity which in many fields of industry has been the sole basis for our achievements. Her artisans have possessed almost none of the delicate artistic sense which makes French handiwork superior to the obstructions of all tariff walls. Her industries were forced to grapple with English competitors entrenched behind a control and domination of the international markets which for generations have been successfully maintained. But amidst this poverty of nat-

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ural resources, and from among a people not signally gifted either with inventive ability or artistic temperament, there has in a generation emerged an industrial nation which stands forth, if we take into account the disadvantages against which it had to struggle, as a marvel of economic development.

I have had a somewhat unusual opportunity to study the underlying causes of the economic success of Germany, and I am firmly convinced that the explanation of that progress can be encompassed in a single word—the schoolmaster. He is the great corner-stone of Germany's remarkable commercial and industrial success. From the economic point of view, the school system of Germany stands unparalleled. The fundamental principle of the German educational system is, in large measure, to train youths to be efficient economic units. In that respect the German system is markedly at variance with the present development of our own educational system. In the German schools the most important aid in the work of successfully training youths into efficient industrial units has come from an auxiliary to the regular school system. It has come from that division of instruction known as the trade schools. The German trade schools have been so designed that they supplement the cultural training of the common school system. They are devised to give instruction which will be practically valuable in every trade, in every commercial and industrial calling. They are so arranged that their work supplements both the cultural training of the academic system and the technical routine of the daily task. These schools are the direct auxiliaries of the shops and the offices. They have been the most powerful influence in Germany in training to high efficiency the rank and file of the industrial army.

The students in these trade schools, you understand, are youths who have completed the regular compulsory

educational course and have gone out into the ranks of active industrial and commercial workers. The hours of instruction are so arranged that they fall outside of the regular hours of labor in shop or office. The curriculum is broadly practical. It includes the science of each particular trade—its mathematics or chemistry for instance—and its technology. But it does not stop there. Principles of wise business management are taught. The aim is to prepare a student for the practical conduct of a business. He gains knowledge of production and consumption, of markets and of the causes of price fluctuations. He is put into a position to acquire an insight into concrete business relations, and into trade practices and conditions. Are not those aims worthy of our schools? What truer democracy can there be than to have a school system that will point the way to every worker, no matter how humble, by which he may reach a clearer comprehension of the industry in which he is engaged and with the aid of this knowledge may rise to a position of importance in that industry.

To do all this does not mean the “commercializing” of our educational system. There is no need for opposition even from those who hold that it is not the place of the schools to teach youths how to earn a livelihood. Those educators who lay strongest emphasis upon such phrases as “character formation,” “mental discipline” and “harmonious cultivation of the faculties,” may continue to hold firmly to those views and at the same time welcome an auxiliary school system which, without curtailing their ideal culture courses, will add, after the ordinary period of school life is over, the opportunity for valuable practical instruction.

Such an auxiliary system of trade schools will be available for the youth after he has left the direct influence of our present school system. There are in the United

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States, ten millions of population between the ages of 15 and 20 years. Three-quarters of that number are not in attendance at any school. Here is a group of youth, seven and one-half millions in number, from which the students of such trade schools would be drawn.

Surely it needs little training in the economics of industry to comprehend what an unreckonable advantage it would be if a substantial proportion of that seven and one-half millions were to be brought within the influence of a new and entirely practical system of education designed to make each youth a more efficient economic unit.

The present generation of American youth, entering industrial or commercial life, is to encounter a new and in some respects a harder condition of affairs. So far as you, as educators, conceive education to be in any sense a preparation for practical life in a work-a-day world, there have been laid upon you new demands and fresh responsibilities. The industrial life of this country has in a decade undergone changes more significant than had been encompassed before in a period of two generations. No one whose life has been largely in the class-room is likely to have comprehended fully the true significance of the development of the forces of combination. There has been combination in the field of labor as evidenced in the growing power of unionism; combination in the domain of capital as manifested in the trusts; concentration in the control of industries, in the subdivision of labor and the aggregation of wealth. This display of the forces of combination, equally significant in the fields of labor and of capital, has brought changed conditions to the problem of human industrial endeavor. The welfare of the people and the position which our country is to maintain among nations, both depend on no single thing more than on the recognition of these changed conditions by our educators. You must

recognize the new demands of the times. You must provide the educational requisites which these changed conditions make imperative.

The forces of combination—the labor union and the trusts—are united and are working in harmony to accomplish at least one thing. They are united in a tendency to make, of a great percentage of our population, commercial or industrial automatons. They both tend to subdivide labor, and thereby limit the opportunity to acquire a comprehension of broad principles. They both tend to circumscribe the field of the apprentice, narrowing his opportunity, forcing him into petty specialization and restricting his free and intelligent development. All this is placing us in grave danger of evolving an industrial race of automatic workers, without diversity of skill, without an understanding of principles, and without a breadth of capacity. There is but one power that can counteract that tendency—that power is the schoolmaster. These youths who can gain from their daily work only that narrow routine technical experience, which in the main is all that the conditions of modern industry offer, have a right to demand something more. They have a right to demand the opportunity for a practical education. As modern conditions narrow their technical training, those same conditions broaden the opportunity for the man who does acquire knowledge which will give him a grasp of more than a single detail of his business. I believe it is your duty to provide schools which will supplement the routine of the day's work, schools that will give to these youths a comprehension of the relation of the narrow daily task to the broad industry, schools that will supplement such cultural training as our present system has provided with practical knowledge of immediate and valuable application, schools that will counteract the discouragement and monotony of the daily round

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of toil and create in their stead some enthusiasm for work, build up a love of labor by showing an intellectual side to what before was blank mechanical routine.

The industrial and commercial world never needed the schoolmaster more. It is not enough to say that you will give your efforts toward the perfecting of the present system, until it will so garb youth in an armor of sweetness and light, until it will so instill into the youthful mind a love of the beautiful, so strengthen his character, so build up by general cultural instruction his mental grasp, so train his general faculties that you will for him have dignified all labor and provided him with springs from which, without regard to material surroundings, he can always drink with the deepest satisfaction. All that is a noble ideal, but none know so well as you yourselves, that an armor of that sort, if it is to be forged by a boy before he is fifteen years of age, will be an imperfect protection against the difficulties of modern industrialism. The present system of education does not meet the present requirements of industrial conditions. There is a want in that industrial situation which nothing can so well supply as an auxiliary school system. I believe Germany has recognized that more clearly than any other nation. Germany's answer to the problem raised by the new industrialism has been the development of the trade school. Her reward has been an unprecedented prosperity of her people and an unexampled development of her economic resources.

I would particularly emphasize the difference between a system of trade schools and a movement to enlarge the present curriculum of existing schools by the introduction of manual training. There should be no confusion between those two ideas. One belongs to the category of the "fads and frills." I believe it is useful, but perhaps it crowds out other things still more useful. The trade

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school system which we need is an utterly different and far more serious matter. It is a technical school of comparatively advanced type, with the technical side of its instruction in the hands of skilled practical workmen. The students are serious workers, regularly employed in shops and offices, who are seeking for knowledge that will help them better to grasp the technique and the principles of their daily labor. The curriculum is designed to aid them to comprehend the scientific and theoretical sides of their work, supplementing their technical experience. The field is quite outside the direct influence of our present school system. The result, in my opinion, if such a system is generally developed, can not be reckoned in symbols of dollars. It will be as far-reaching as our international relations, as broad as our industrial life, as important as the welfare, prosperity and contentment of our people.

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